

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IT 03/00708

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B22D11/06 B22D11/118

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B22D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| A | PATENT ABSTRACTS OF JAPAN vol. 2003, no. 12, 5 December 2003 (2003-12-05) & JP 2003 266154 A (NIPPON STEEL CORP), 24 September 2003 (2003-09-24) abstract | 1 |
| A | PATENT ABSTRACTS OF JAPAN vol. 2003, no. 06, 3 June 2003 (2003-06-03) & JP 2003 039139 A (NIPPON STEEL CORP), 12 February 2003 (2003-02-12) abstract ----- -/- | 1, 14 |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

8 July 2004

Date of mailing of the international search report

20/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Mailliard, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IT 03/00708

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | PATENT ABSTRACTS OF JAPAN vol. 0165, no. 76 (M-1345), 16 December 1992 (1992-12-16) & JP 4 224053 A (NIPPON STEEL CORP), 13 August 1992 (1992-08-13) abstract | 1 |
| A | PATENT ABSTRACTS OF JAPAN vol. 2003, no. 04, 2 April 2003 (2003-04-02) & JP 2002 346702 A (NIPPON STEEL CORP; MITSUBISHI HEAVY IND LTD), 4 December 2002 (2002-12-04) abstract | 1 |
| A | PATENT ABSTRACTS OF JAPAN vol. 2002, no. 03, 3 April 2002 (2002-04-03) & JP 2001 321897 A (NIPPON STEEL CORP), 20 November 2001 (2001-11-20) cited in the application abstract | 1 |
| A | PATENT ABSTRACTS OF JAPAN vol. 1996, no. 10, 31 October 1996 (1996-10-31) & JP 8 164449 A (NIPPON STEEL CORP), 25 June 1996 (1996-06-25) abstract | 1 |
| A | PATENT ABSTRACTS OF JAPAN vol. 1996, no. 10, 31 October 1996 (1996-10-31) & JP 8 155593 A (NIPPON STEEL CORP), 18 June 1996 (1996-06-18) abstract | 5,8. |
| A | US 3 669 181 A (SCHREWE HANS) 13 June 1972 (1972-06-13) figures 1,2 | 17 |
| A | US 5 385 199 A (SAKAGUCHI HARUO) 31 January 1995 (1995-01-31) abstract; figures 1,2 | 16 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IT 03/00708

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|----------------------------|---------------------|
| JP 2003266154 | A | 24-09-2003 | NONE | |
| JP 2003039139 | A | 12-02-2003 | NONE | |
| JP 4224053 | A | 13-08-1992 | JP 2792739 B2 | 03-09-1998 |
| JP 2002346702 | A | 04-12-2002 | NONE | |
| JP 2001321897 | A | 20-11-2001 | NONE | |
| JP 8164449 | A | 25-06-1996 | NONE | |
| JP 8155593 | A | 18-06-1996 | JP 3214994 B2 | 02-10-2001 |
| US 3669181 | A | 13-06-1972 | AT 300235 B | 25-07-1972 |
| | | | CH 521182 A | 15-04-1972 |
| | | | DE 1959097 B1 | 26-11-1970 |
| | | | ES 188796 Y | 16-09-1974 |
| | | | FR 2068547 A5 | 27-08-1971 |
| | | | GB 1325568 A | 01-08-1973 |
| | | | ZA 7006940 A | 28-07-1971 |
| US 5385199 | A | 31-01-1995 | JP 2069077 C | 10-07-1996 |
| | | | JP 6023492 A | 01-02-1994 |
| | | | JP 7102433 B | 08-11-1995 |
| | | | DE 4307130 A1 | 16-09-1993 |
| | | | FR 2688432 A1 | 17-09-1993 |
| | | | KR 9605880 B1 | 03-05-1996 |